

# NECC Data Governance Metadata Standard

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## Introduction

Metadata for the purpose of this standard is data that describes the business and technical characteristics of a data system, data source, data object, or data element. Metadata defines and gives value to a data asset.

The purpose of this metadata standard is to establish processes and guidelines for management of the metadata of NECC's data assets to ultimately maximize the viability of NECC's data assets as a strategic advantage. As any given data asset can be used by multiple users in a diverse set of contexts, it is important that metadata is regularly maintained for universal clarity across the college, as well as data security, necessitating this standard.

## Standard Scope

This standard applies to all data assets that are sourced from a data system within the NECC data ecosystem or are otherwise leveraged for business needs.

For example, the data assets within the ZogoTech data system should have its accompanying metadata be compliant with this standard.

This standard will not be formally enforced due to the limited capacity for areas to fully update their metadata repositories in a reasonable manner. However, data managers are expected to ensure that metadata is up to date for data assets that are of high importance or are commonly used for business needs. Some examples of "high importance" data assets could be "Student ID" or "GPA", among many others that are regularly leveraged at the college.

Furthermore, data managers are expected to update any metadata that isn't compliant with the requirements of this standard in the scenario that the associated data asset(s) are needed by an end user for business use.

## Standard Objectives

The objective of this standard is to lay the framework through which NECC will benchmark and improve data quality to ultimately maintain compliance with any relevant laws and regulations as well as to leverage institutional data for decision-making as effectively as possible.

- Provide metadata standards (as well as assigning accountability) for data managers and stewards to improve the college catalogue of metadata in a manner that is consistent throughout the institution
- Improve data quality using improved metadata as the data quality benchmark as part of a data quality control initiative.
- With higher quality data, improve institutional analytics and decision-making.

## Standard Statement

Data objects associated with NECC data systems must have relevant technical and business metadata catalogued and curated within a metadata repository.

Metadata for the purpose of this standard is data that describes the business and technical characteristics of a data system, data source, data object, or data element. Metadata defines and gives value to a data asset.

## Standard Details

- Data Managers are ultimately responsible for ensuring that metadata pertinent to their functional domains/systems are curated in accordance with the metadata standards as detailed in this standard.
  - The responsible data manager will initiate corrective action as necessary to address any issues or inaccuracies found with existing metadata, prioritizing metadata that is needed to inform any business use of any associated data.
  - If an end user of the data from any given data system requests the metadata or data definition for data whose metadata doesn't meet the requirements of the metadata standards as detailed in this standard, the data manager is expected to update the metadata to enable the end user to effectively leverage the data.

## Metadata Standards

### Metadata Repository

- If not already existent, a metadata repository (also known as a data dictionary) will be developed and maintained to manage metadata.
  - An Excel spreadsheet can be used if the relevant data system does not have a built-in metadata repository
  - The metadata repository can be chosen at the appropriate Data Manager's discretion with review and approval by data governance management for suitability.
- The metadata repository should be accessible to all of the users of the overarching data system.

### Minimum Required Metadata

| Data Dictionary       | Description              | Example         |
|-----------------------|--------------------------|-----------------|
| Business Element Name | Business name of element | Tags (Navigate) |
| Data Element Name     | Name of data element     | Tags            |

|                           |   |  |
|---------------------------|---|--|
| Description               | Business description  | We use tags at NECC in Navigate to track groups manually on data fields that aren't stored in BANNER (Categories are the inverse of tags as they are auto-populated from Banner) |
| Data Type                 | Physical data type (varies depending on database platform)  | String   |
| Valid Values              | Valid data ranges; 1,0 for measures; valid date range, codes  | Naming convention<br>{YEAR}{TERMCODE}_{NAME}<br>Example – 202209_SOAR  |
| Source System             | Source system database - may need to insert additional columns for multiple load "stops" (staging, DW --> DM) | Navigate (Faculty/Staff)   |
| Downstream System         | System database that consumes or loads data from the database that this data element exists in                | N/A  |
| Security Level            | Who has access to view and/or edit the data?  | View - All employees and faculty<br>Edit – Office of IE, program coordinators  |
| Contact                   | Data Manager and/or Data Steward contact person   | Director of Institutional Effectiveness (Audrey Ellis)   |
| Data Retention Timeline   | Time requirement that a data element needs to be maintained for   | N/A  |
| Additional Notes          |   | Office of IE manages permissions to add tags, and keeps a list of all tags and use cases.  |
| Date of Change            |   | 04/28/2022   |
| Person documenting change |   | Andrew Nguyen, Audrey Ellis  |

It is strongly recommended to include additional metadata elements to provide additional context to any data elements if necessary.

## Roles and Responsibilities

### Data Managers

Data Managers are accountable for the implementation of this standard as it pertains to the data assets that fall with their domain.

### Data Stewards

Data stewards, at the instruction of the appropriate data owner, are responsible for aggregating, curating, and publishing metadata in the appropriate metadata repository.

## Data Governance Management

The Data Governance Management team is responsible for administering the standard and intervening as appropriate if there are any issues with standard compliance.

## Applicable Procedures

At this time, there are no formal procedures associated with this standard. Data managers are expected to ensure that the metadata that they are responsible for conforms to the basic requirements set out by this standard at their discretion.

## Standard Compliance

To be determined at a future date if necessary.

## Effective Date

November 5, 2022

## Standard Review Process

The standard will be reviewed on a regular basis at 2-year intervals.

Data managers can initiate a standard review at any time if there are any elements to the standard that undermine the intended purpose of the standard.

## Suggested Best Practices

### Metadata Change Request

If there is a desire to change or transform a data object for a business purpose, the person(s) that manage said data asset (See: Contact in metadata) should be included in any conversations so that they can advise on any implications associated with any changes and update the metadata repository as appropriate.

### Data System Sunset Metadata Preservation

If a data system is to be sunset, the data manager should archive any metadata that is needed to interpret any data that will be collected and archived for future use. Data Governance Management should be contacted to ensure that any archival plan is appropriate.

## Appendix

Up to date versions of this document can be found on the NECCI Data Governance website:

<https://necci.necc.mass.edu/data-governance/>

## Data Governance Management

Data Governance Management (as of the most recent revision) is comprised of the following people:

- Director of Institutional Effectiveness – Audrey Ellis
  - [aellis@necc.mass.edu](mailto:aellis@necc.mass.edu)
- Business Analyst – Andrew Nguyen
  - [anguyen@necc.mass.edu](mailto:anguyen@necc.mass.edu)

## Definitions

- Metadata - Data that describes the business and technical characteristics of a data system, data source, data object, or data element
  - Technical Metadata – Metadata that describes technical properties of a data system, data source, data object, or data element. Examples could include “source system” or “valid values.”
  - Business Metadata – Metadata that describes the business use case of the data system, data source, data object, or data element to provide necessary context for its use by business users in non-technical language.
- Data Ecosystem – Generally speaking, the data assets that are possessed by NECC.
  - <https://necci.necc.mass.edu/completed-projects/data-ecosystem-and-assets/>
- Data Systems - the hardware and/or software data processing systems used to process, exchange, analyze, store and retrieve data
- Data Object – A collection of one or more data elements that create meaning as a whole, such as a data table or a data file.
- Data Element – A basic unit of data that has its own precise meaning.

## Revision History

| Version | Date      | Author(s)  | Revision Notes   |
|---------|-----------|--|--|
| 0.1     | 6/15/2022 | Metadata Standard Development Group: <ul style="list-style-type: none"><li>• Andrew Nguyen</li><li>• Audrey Ellis</li><li>• Joan Scionti</li><li>• Gabriel Garcia</li><li>• Martha Mazeika</li><li>• Estefanie Bernard</li></ul> | Tentative First Draft, pending review of data managers                       |
| 1.0     | 10/4/2022 | Andrew Nguyen  | Renamed as a standard, minor adjustments made per comments by data managers. |